

ANNOTATIONES ZOOLOGICAE JAPONENSES

Volume 50, No. 4—December 1977

Published by the Zoological Society of Japan

Discovery of a Mite of the Genus *Caenosamerus*
from Japan

With 10 Text-figures

Jun-ichi AOKI

*Department of Soil Biology, Institute of Environmental Science and Technology,
Yokohama National University, Yokohama 240, Japan*

ABSTRACT The second species of the genus *Caenosamerus* (Acari, Oribatida, Ameridae) is described from Japan. The Japanese species, *C. spatiosus* sp. n., is different from the North American species, *C. litosus* Higgins et Woolley, 1969, in the shape of lamellae and sensilli.

Higgins and Woolley (1969) described a peculiar oribatid mite, which represents their newly established genus *Caenosamerus*, based on a single specimen collected in North Carolina, U. S. A. By a recent examination of a mite collection from the Tsushima Islands, West Japan, the author found an oribatid mite doubtlessly belonging to the genus *Caenosamerus*. Another specimen of the same species was found from a soil material collected by Dr. Keiko Nijima (Government Forest Experiment Station) in the central part of Japan and sent to the author through her courtesy.

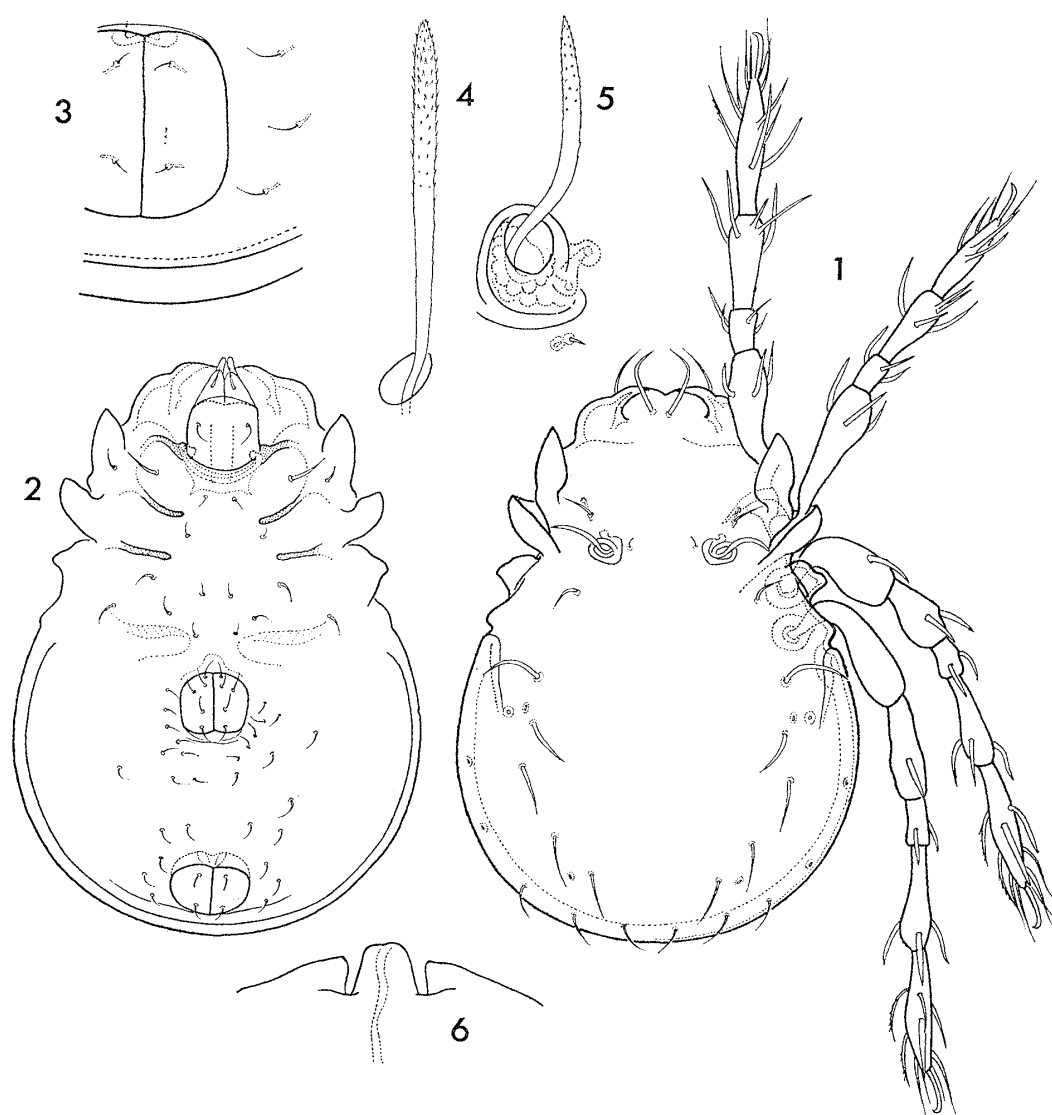
These two specimens closely resemble the North American species, *Caenosamerus litosus* Higgins et Woolley, 1969, a single representative of the genus *Caenosamerus*. However, because of some important differences, the Japanese form is described here as a new species.

Caenosamerus spatiosus sp. n.

(Figs. 1–10)

Measurement. 868 × 627 μ (holotype).

Prodorsum. Rostrum appears to have a shallow median notch in dorsal view (Fig. 1); when some pressure is given on cover glass, however, the specimen under the glass stretches the anterior edge of rostrum which has in fact two notches (Fig. 6). Lamella flattened, located laterally of prodorsum, having a short, curved cuspis arising from nearly the same level of the insertion pore of rostral seta. Rostral seta elbowed, being longer and thicker than lamellar seta. Two setal insertion pores visible anterolateral to bothridium, but no seta could be found in the anterior pore;



Figs. 1-6. *Caenosamerus spatiosus* sp. n. — 1. Dorsal view. — 2. Ventral view. — 3. Anal aperture and adanal setae. — 4. Sensillus of a pressed specimen. — 5. Sensillus and bothridium. — 6. The anterior margin of rostrum of a pressed specimen.

the seta in the posterior pore, exobothridial seta, about a half as long as lamellar seta. Interlamellar seta very minute. Sensillus comparatively short and thick, the exposed portion being shorter than the distance between the centers of bothridia; the distal half of the organ weakly, but densely barbed. Pedotecta I and II well developed; the anteroventral margin of *pd.* 2 with a round notch near the base.

Notogaster. The anterolateral part on each side bears two projections, under which legs III and IV are inserted, respectively. Behind these projections is found a sclerotized humeral ridge extending posteriorly to the level of lateroabdominal gland opening. Nine pairs of notogastral setae much different in length and thick-

ness; the anteriormost pair short, nearly as long as exobothridial setae; the second pair robust and the longest; the third pair as thick as, but a little shorter than, the second pair; the fourth pair as long as, but thinner than, the third pair; the fifth and sixth pairs as long as, but thinner than the fourth pair; the second and the third pairs weakly roughened or serrated. Three pairs of lyrifissures are found; the anterior one located close to and interior to *gla*; the middle and the posterior ones along the lateral margin of notogaster.

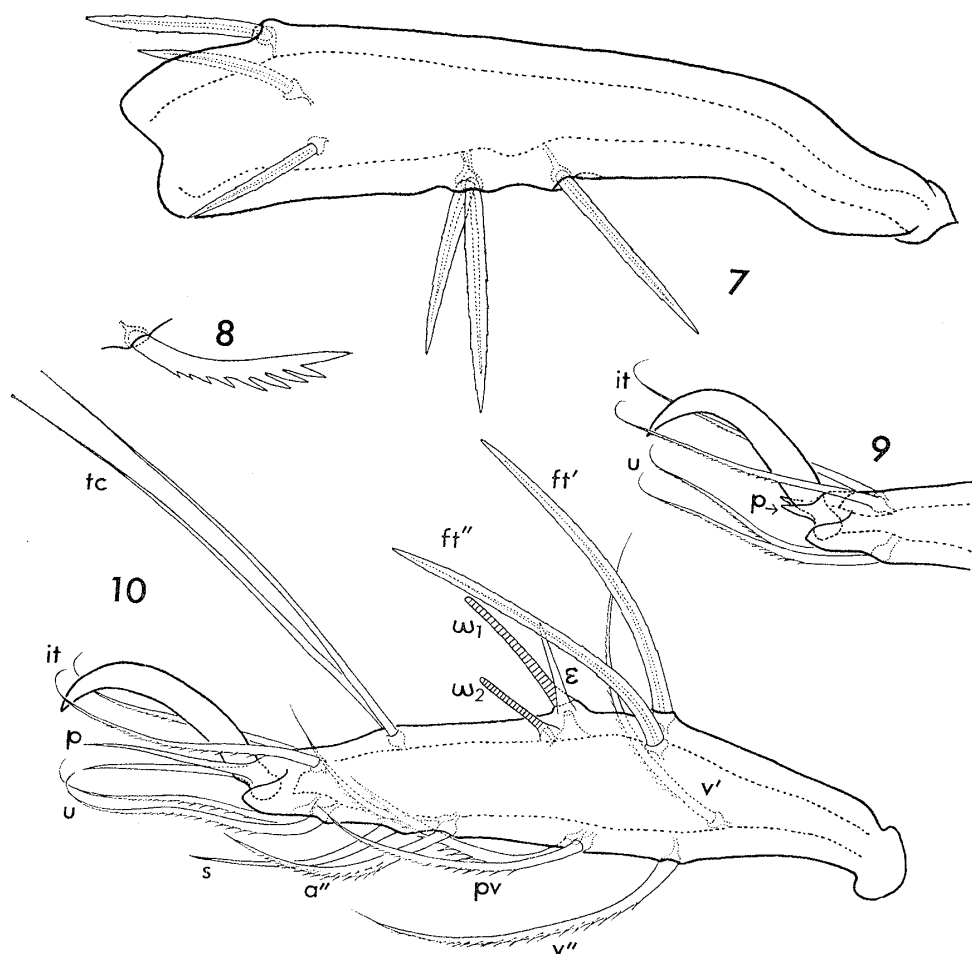
Ano-genital region. Genital aperture almost square, each plate bearing 5 setae, among which a single seta displaced laterally from insertions of the other setae. Anal aperture, in ventral view, appears to be wider than long, because it is located on the posterior, inclined part of ventral plate; the real shape is nearly rectangular and somewhat longer than wide as shown in Fig. 3; two pairs of anal setae very short and about $1/3$ as long as genital setae. Three pairs of adanal setae distinctly longer than the anals. On the ventral plate, between genital and anal openings as well as around genital opening many neotrichial setae are found; the number of the setae is 11 or 12 on each side and their positions are fairly variable.

Epimeral region. Apodemata I, II and SJ distinctly developed. Setal formula of epimerata: 3-1-4-?; the number of setae on *ep. 4* was not ascertained because of cerotegumental covering; one of setae on *ep. 1* far thicker than the remaining setae.

Legs. Chaetotaxy of legs: I (6-4-4-18), II (3-3-5-15), III (3-3-4-15), IV (3-3-4-12); solenidiotaxy: I (1-2-2), II (1-1-2), III (1-1-0), IV (0-1-0). Trochanters III and IV each with one seta. Tarsi monodactylous. Setae *p* on the tip of tarsi have a special shape, being widened basally and lacking in ordinal insertion pores; setae *p* on tarsus I long and pointed at tip (Fig. 10), while those on tarsi II-IV short and thorn-like (Fig. 9). Tarsus I: Solenidia almost straight; ω_1 about $1.8\times$ as long as ω_2 ; ω_2 inserted lateral and a little anterior to ω_1 ; famulus ϵ located close to ω_1 ; setae *ft* robust, with axis, rather blunt at tip, weakly and sparsely roughened marginally; setae *tc* smooth and the longest; seta *s* glabrous; the remaining setae distinctly barbed; the barbs on seta *pv'* stronger and more sparsely arranged than those on the other setae. Tarsus II: Solenidia ω_1 and ω_2 inserted before and behind; the distance between them about $2/3$ as long as the length of solenidia; seta *pv'* similar in shape to *pv'* on tarsus I; *pv''* more robust than *pv'* and the barbs become far stronger (Fig. 8). Tarsus III also has such a robust seta *pv*, but tarsus IV has normal setae only.

Type-series. Holotype (YNU-5, on slide): Sengen-yama near Mt. Kiyosumi, Kominato-machi, Chiba-ken, 26-III-1969, K. Nijima (extracted by J. Aoki), *ex* litter under evergreen mixed forest.—Paratype: At the southwest foot of Mt. Ohboshi, Mine-son, Tsushima Islands, 19-X-1968, J. Aoki. The type-series is deposited in the collection of Yokohama National University, Yokohama.

Remarks. The single known representative of the genus *Caenosamerus*, *C. litosus* Higgins et Woolley, 1969, of North America is distinguishable from the Japanese species, *C. spatiosus* sp. n., by the following features: 1) Sensilli slender,



Figs. 7-9. *Caenosamerus spatiosus* sp. n. — 7. Femur I. — 8. Seta pv'' of tarsus II. — 9. Apical part of tarsus II. — 10. Tarsus I (antiaxial view).

pointed at tip and longer than the distance between bothridia. 2) Lamellae long and sword-shaped. 3) Two pairs of exobothridial setae are visible. 4) The body size is smaller ($744 \times 454 \mu$). According to Higgins and Woolley (1969), *C. litosus* has 4 pairs of adanal setae. But the Japanese species has only 3 pairs of setae in the lateral sides of anal aperture, though 2 more pairs of setae are inserted in front of the aperture. Comparison of leg morphology between the two species is impossible, because almost no information in this regard is obtainable from the original description of *C. litosus*.

REFERENCE

- Higgins, H. G., and T. A. Woolley, 1969. A new genus and species of oribatid from North Carolina (Acari: Cryptostigmata: Amerobelbidae). *Proc. ent. Soc. Wash.*, **71**: 544-546.